



INVITED COMMENTARY

Thrombolysis or Immediate Surgery for Thrombosed Popliteal Aneurysms?

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The major risk of popliteal aneurysms is thrombosis, which is usually associated with tibial vessel embolisation. This may occur silently or cause claudication but frequently results in acute limb ischaemia. The prevalence of popliteal aneurysms in the general population and the proportion that cause acute limb ischaemia are unknown, so the risk of acute ischaemia is difficult to quantify. Nevertheless, elective exclusion bypass is usually advised for symptomatic aneurysms or those greater than 2 cm in diameter,¹ although some advocate a threshold of 3 cm.² This is based on the better outcome of elective than emergency treatment in case series. In the Swedish Vascular Registry, amputation rates were 17% for emergency and 4% for elective bypass, and 12% for symptomatic compared with 1.8% for asymptomatic aneurysms.³

Because popliteal aneurysms are relatively uncommon, there have been no large randomised trials and outcome data are limited to case series and registries. Some thrombosed aneurysms inevitably present too late for limb salvage but most with a threatened limb undergo emergency bypass. Despite this, some suffer major amputation, usually because of failure to clear thrombus from the runoff vessels with balloon catheters. Preoperative thrombolysis under X-ray control is, therefore, particularly attractive. However, complete lysis may take several

hours and is not always achieved. Any resultant delay may be harmful in the acutely threatened limb with sensorimotor deficit or calf tenderness. Alternatively, intraoperative catheter-directed thrombolysis can be used to complete the clearance of the tibial vessels after thrombectomy.

In this issue, Kropman and colleagues⁴ have attempted to answer the question of whether patients should undergo preoperative thrombolysis or proceed directly to surgery by reviewing 895 cases of thrombosed popliteal aneurysms from the literature. Whilst they did not demonstrate any reduction in major amputations, preoperative or intraoperative thrombolysis was associated with a significant improvement in primary graft patency at 1 year.

However, there were significant limitations: Firstly, none of the included studies were randomised trials. Secondly, patients with the most severe ischaemia may have preferentially undergone immediate surgery, and whilst the authors found no difference in the degree of ischaemia between the two groups, this information was available in few studies. Thirdly, the benefit was not significant at 3 and 5 years and secondary patency was unaffected. Nevertheless, this report does suggest that preoperative or intraoperative thrombolysis might improve graft patency after emergency exclusion bypass for thrombosed popliteal aneurysms.

Whether preoperative and intraoperative thrombolysis are equivalent is uncertain as numbers of the latter were small. In the Swedish registry,³ preoperative thrombolysis was associated with fewer amputations; the small number

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undergoing intraoperative thrombolysis had a higher amputation rate but it was probably only used for persisting ischaemia after revascularisation.

Whether preoperative thrombolysis should be offered routinely can only be settled by a large multicentre randomised trial, but present evidence suggests that it may be useful for patients without motor and sensory loss or calf tenderness. For those with sensorimotor loss, a short trial of preoperative thrombolysis might be contemplated, but immediate surgery and selective intraoperative thrombolysis may still be advisable.

References

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